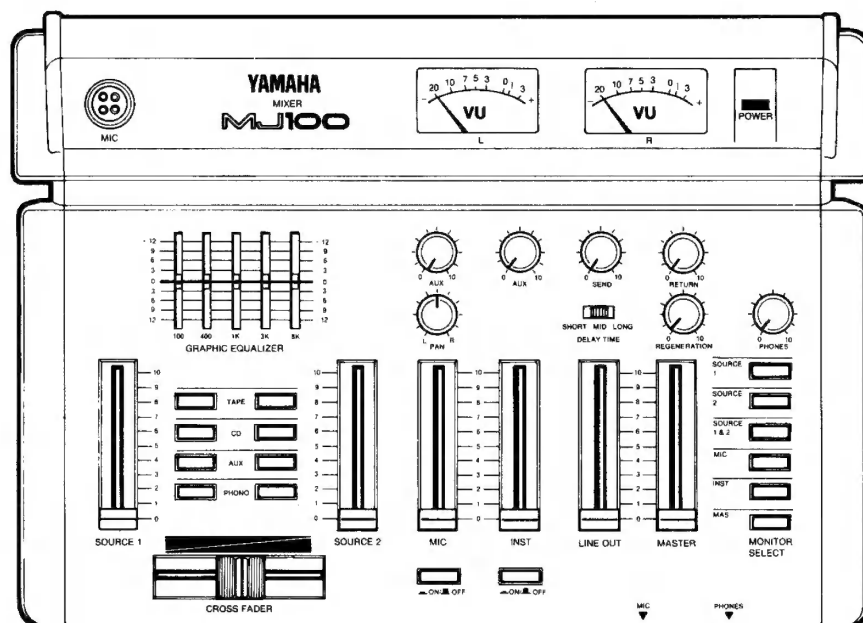


# YAMAHA

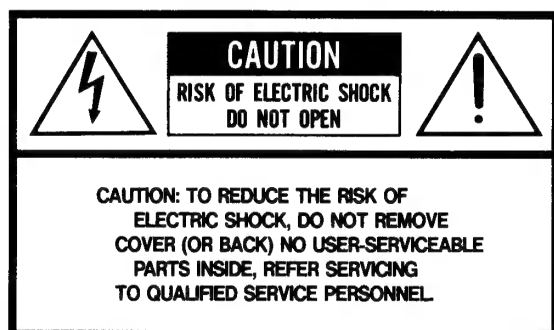
## MIXER

# MJ100

## OPERATING MANUAL



*Thank you for purchasing the Yamaha MJ100 Mixer. In order to take full advantage of the MJ100's capabilities and to enjoy long, trouble-free operation, please read this manual before use, and keep it in a safe place with the warranty for later reference.*



● Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## FEATURES

- Five-band  $+/-$  12dB Graphic Equalizer allows you to adjust the sound to suit any location or speaker system.
- Built-in RIAA phono equalizer for directly connecting record players.
- Phantom power for 4P-type condensor microphone.
- Built-in three mode delay (short, mid, long) for creative sounds.
- Monitor select switches allow you to check input or output through a set of headphones.

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# PRECAUTIONS

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## ● Location

Using the product in the following types of location may cause malfunction and damage the product.

- In direct sunlight or near a heater
- In extremely cold locations
- In excessive dust or humidity
- Where the unit will be subjected to excessive vibration

## ● Handling

Strong physical shocks to the unit can cause damage. Handle it with care. Do not apply excessive force to the switches or controls.

## ● Power Cable

To prevent shorting or damaging the power cable, grasp the connector—not the cable—when unplugging it. When you will not be using the unit for an extended period of time, unplug the power cable from the AC power source.

## ● Power Source

Make sure that the power source voltage specified on the rear panel matches your local AC power supply.

## ● Moving the Unit

To prevent short circuits or cable damage, unplug all cables before moving the unit.

## ● Connections

Before connecting the MJ100 with other units, turn the power of all units OFF and turn the MJ100 master volume all the way down.

## ● Do Not Open the Unit

This product contains no user-servicable parts. Refer all maintenance to qualified YAMAHA service personnel. Opening the unit and/or tampering with the internal circuitry will void the warranty.

## ● Cleaning

Never use solvents such as benzine or thinner to clean the unit, and do not use aerosol-type sprays nearby. Wipe the unit clean with a soft, dry cloth.

## ● Electrical Storms

In the event of an electrical storm (lightning) nearby, unplug the power cable from the AC power source.

## ● Warranty

When purchasing the unit, be sure to fill out the warranty, and have it stamped by the dealer. If you fail to do so, you may be charged for repair service performed even within the warranty period.

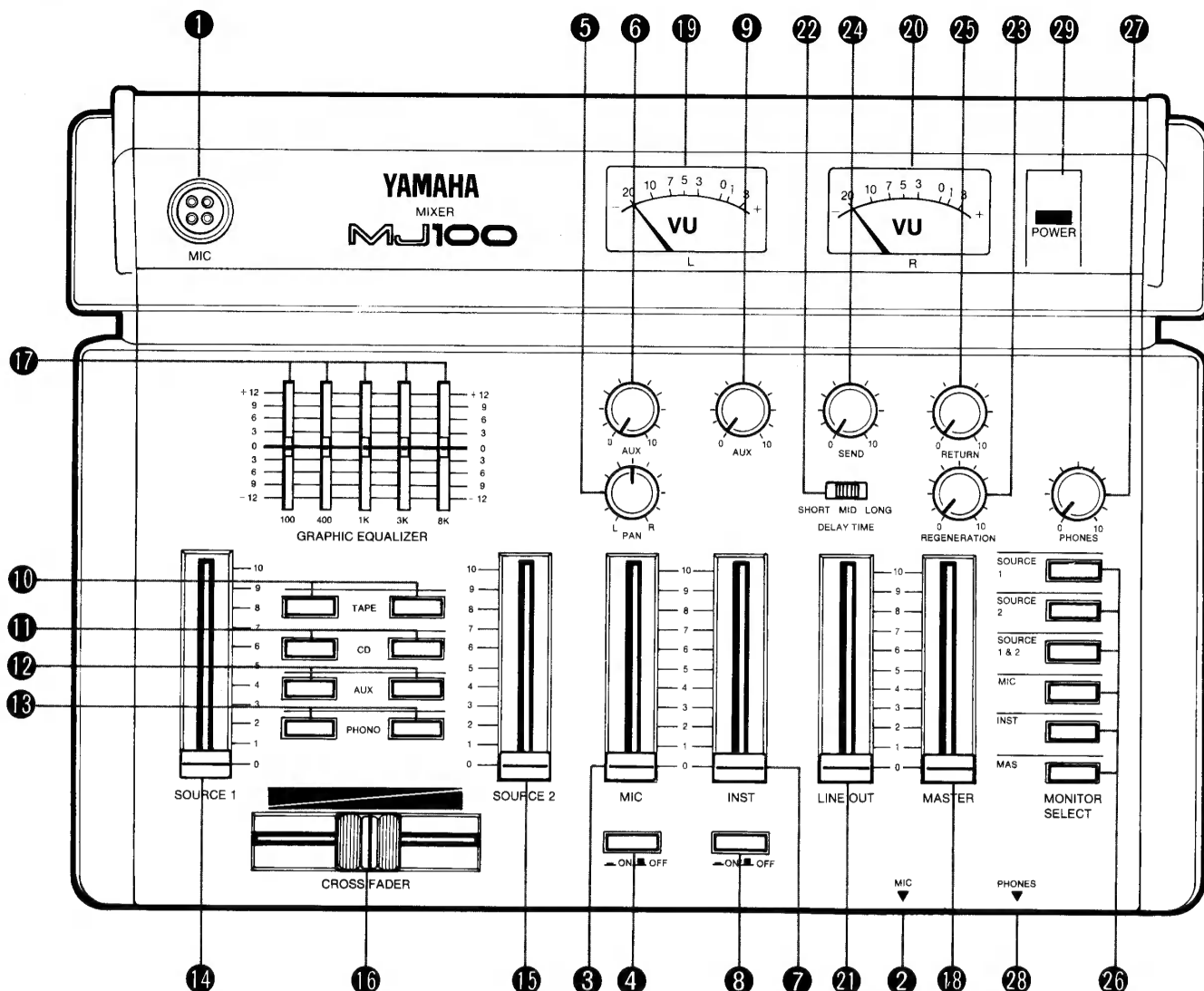
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## SAFETY INSTRUCTIONS (PREPARED IN ACCORDANCE WITH UL STANDARD 1270)

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1. Read Instructions — All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and use instructions should be followed.
5. Water and Moisture — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. Wall or Ceiling Mounting — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
12. Cleaning — The appliance should be cleaned only as recommended by the manufacturer.
13. Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
15. Damage Requiring Service — The appliance should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the appliance; or
  - C. The appliance has been exposed to rain; or
  - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
  - E. The appliance has been dropped, or the enclosure damaged.
16. Servicing — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

# CONTROL PANEL



## < Input Section >

### ① MIC jack

Special mic input for use with a goose neck condenser mic MJM-10 (option).

### ② MIC jack

Normal mic input for use with standard phone plug type.

Note) When both mic inputs 1 and 2 are used, input 2 has priority. (The mic connected to input 1 will not be used.)

### ③ MIC fader

This adjusts the level of the mic connected to input 1 or 2. Use this control to balance the mic with the other input channels.

### ④ ON/OFF switch

This switches the mic on/off, allowing you to turn the mic off without changing the fader level.

### ⑤ PAN control (mic pan)

The PAN control adjusts the mic signal in the stereo field of the LINE OUT signal. Rotate PAN to the left (or right) to place the signal toward the left (or right) of the stereo field. In the center position, the mic sound will be in the center of the stereo field.

### ⑥ AUX control (mic effect)

The AUX control adjusts the signal sent from the mic to the internal delay circuit or the rear panel AUX SEND. When an effects device is connected between AUX SEND and AUX RETURN, the front panel AUX will regulate the depth of the effect. The level increases as you rotate AUX to the right.

## **7 INST fader**

The INST fader adjusts the level of electronic or electric instruments connected to the rear panel INST L, R inputs. Both L and R inputs will be controlled together. Use this control to balance the INST input with the other input channels.

## **8 ON/OFF switch**

This switches the INST inputs on/off, allowing you to turn off the input without changing the fader level. Both L and R inputs will be turned on/off together.

## **9 AUX control (inst effect)**

The AUX control adjusts the signal sent from the INST inputs to the internal delay circuit or the rear panel AUX SEND. The L and R signals will be mixed. You cannot send only L or only R. When an effects device is connected between AUX SEND and AUX RETURN, the front panel AUX control will regulate the depth of the effect.

The level will increase as you rotate AUX to the right.

## **10 , 11 , 12 , 13 INPUT SELECT switches**

These switches select the sources connected to the rear panel SOURCE 1 and SOURCE 2 inputs. Press the switch to select the corresponding source.

## **14 , 15 SOURCE 1, 2 faders**

These adjust the level of the input sources selected by the Input Select switches. A single fader controls both L and R. Use these faders to balance the SOURCE 1 and 2 inputs with the other input channels.

## **16 CROSS FADER**

This fader adjusts the balance between SOURCE 1 and SOURCE 2, as follows.

- As the CROSS FADER is moved to the left, SOURCE 1 becomes louder and SOURCE 2 becomes softer.
- When the CROSS FADER is in the center position, SOURCE 1 and 2 are the same level.
- As the CROSS FADER is moved to the right, SOURCE 1 becomes softer and SOURCE 2 becomes louder.

## **< Master Section >**

## **17 5-BAND GRAPHIC EQUALIZER**

This is a graphic equalizer with center frequencies at 100Hz, 400Hz, 1kHz, 3kHz and 8kHz, with  $\pm 12$ dB of control over each band. Moving a slider in the plus (+) direction will emphasize that frequency range. Moving a slider in the minus (−) direction will de-emphasize that frequency range.

When the slider is at 0, the response is flat. Adjust equalizer settings to suit the room or speaker system you are using. The equalized signal is sent only from the MASTER OUT L, R jacks. Each slider of the equalizer affects both channels L and R in the same way.

## **18 MASTER fader**

The MASTER fader regulates the level output from the rear panel MASTER OUT L, R jacks. It controls the final volume (channels L and R together) of the mixed input sources. Adjust the MASTER fader level according to the VU meters ( 19 , 20 ).

## **19 , 20 Output VU meters**

These meters indicate the level of the signal output from the rear panel MASTER OUT L and R jacks. The levels will depend on the MASTER fader setting. Adjust the MASTER fader 18 so that the loudest signal makes the meters indicate 0dB.

## **21 LINE OUT fader**

The LINE OUT fader regulates the level output from the rear panel LINE OUT L, R jacks. It controls the final volume (channels L and R together) of the mixed input sources sent from the LINE OUT jacks.

## **22 DELAY TIME select switch**

The MJ100 has a built-in delay unit. When the rear panel AUX RETURN jacks are not being used, a Long, Mid or Short delay can be selected.

## **23 REGENERATION control**

When the rear panel AUX RETURN jacks are not being used, the REGENERATION control regulates the amount of signal sent to the built-in delay unit.

Use REGENERATION together with 25 RETURN to adjust the amount of delay effect. When the RETURN control is at 0, there will be no delay effect. The built-in delay unit can be used only by the MIC and INST inputs.

Note) If an effects device is connected to the rear panel AUX RETURN inputs, the built-in delay unit will not operate, and 22 and 23 will have no effect.

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**24 SEND control**

The SEND control regulates the level of the signal output from the rear panel AUX SEND jack. When using an external effects unit, this control regulates the level of the signal sent to the external effects unit. Only the MIC and INST inputs can send a signal through the SEND control to the rear panel AUX SEND jack.

**25 RETURN control**

The RETURN control regulates the level of the signal received from the rear panel AUX RETURN inputs. When an external effects device is connected, this control regulates the level of the signal received from the external effects unit. If nothing is connected to the AUX RETURN jacks, this control regulates the level of the signal from the built-in delay unit.

**26 MONITOR SELECT switches**

These switches select the signal to be monitored in the headphones. The monitor signal is selected as follows.

- SOURCE 1 & 2 ... The Selected Source 1 mixed (L + R) signal input the left channel, and Selected Source 2 mixed (L + R) signal input to the right channel. All signals are before the source fader.
- MIC ... The MIC signal input after the mic amp but before the MIC fader.
- INST ... The INST signal input before the INST fader.
- MASTER OUT ... The mixed signal output from the MASTER OUT jacks. Input signals are monitored before the faders, and output signals are monitored after the faders.

**27 PHONES LEVEL control**

The MONITOR LEVEL control regulates the level of the headphone monitor signal. The headphone will monitor the signal selected by the MONITOR SELECT switches.

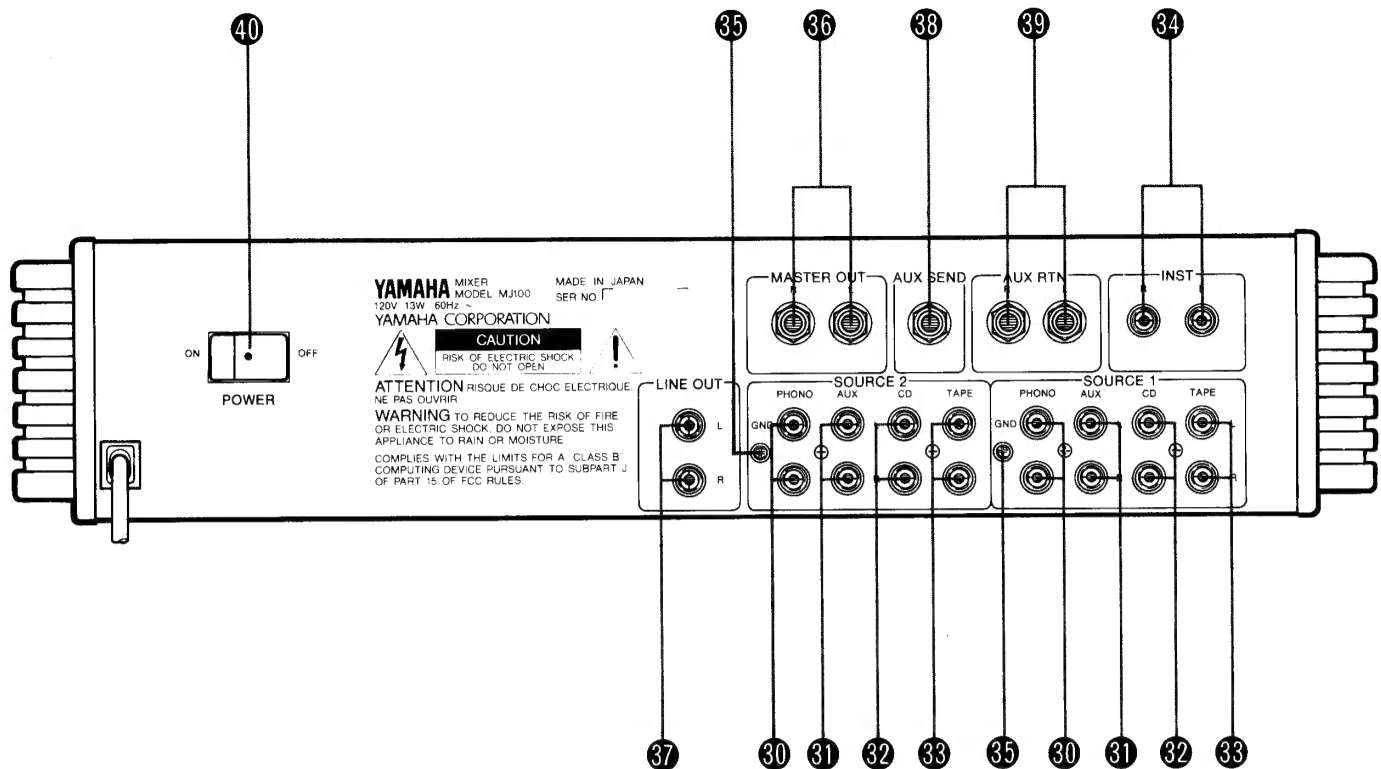
**28 PHONES jack**

Connect a pair of stereo headphones to this jack to monitor the signal selected by 26 and regulated by 27.

**29 POWER indicator**

When the rear panel power switch is turned on, this indicator will light.

# REAR PANEL



## < Input Section >

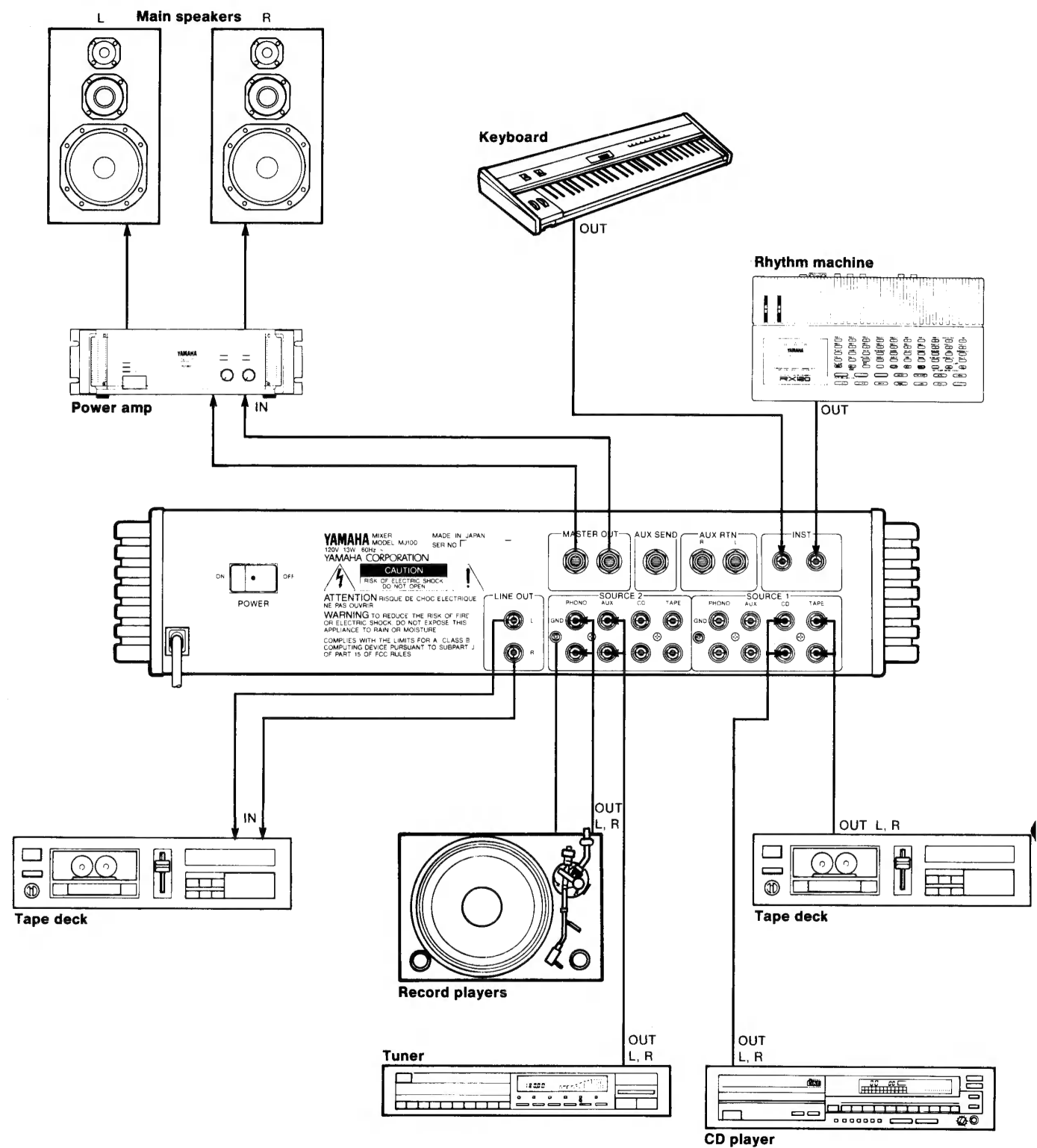
- 30 PHONO inputs**  
Pin jack inputs for a record player. The MJ100 has a built-in phono RIAA EQ amp, and record players can be directly connected. Do not connect any other type of equipment to these jacks.
- 31 AUX inputs**  
Line level pin jack inputs. Connect tuners or other standard audio sources.
- 32 CD inputs**  
Line level pin jack inputs. Connect CD players, etc.
- 33 TAPE inputs**  
Line level pin jack inputs. Connect cassette or open reel decks, etc.
- 34 INST inputs**  
Line level phone jack inputs. Connect electric or electronic instruments, rhythm machines, etc.
- 35 GND**  
Connect the record player grounding wire to the provided grounding terminal.

## < Master Section >

- 36 MASTER OUT jacks**  
Output (standard phone jack) of the final mixed and equalized signal. Connect these outputs to the power amp system.
- 37 LINE OUT jacks**  
Output (PIN jack) of the mixed signals. Connect these outputs to a recording deck, or (if using the MJ100 as a submixer) to the main mixer.
- 38 AUX SEND jack**  
Output (standard phone jack) for when using an external effect unit.  
Connect this output to the input of the external effect unit (reverb unit, delay unit, limiter, etc.).
- 39 AUX RETURN jacks**  
Inputs (standard phone jack) for when using an external effect unit.  
Connect the output of the external effect unit to these inputs. When using these inputs, the MJ100's built-in delay unit will not operate.
- 40 POWER switch**  
The power switch. When power is switched ON, the front panel indicator (29) will light. When power is switched OFF, the indicator will go out.

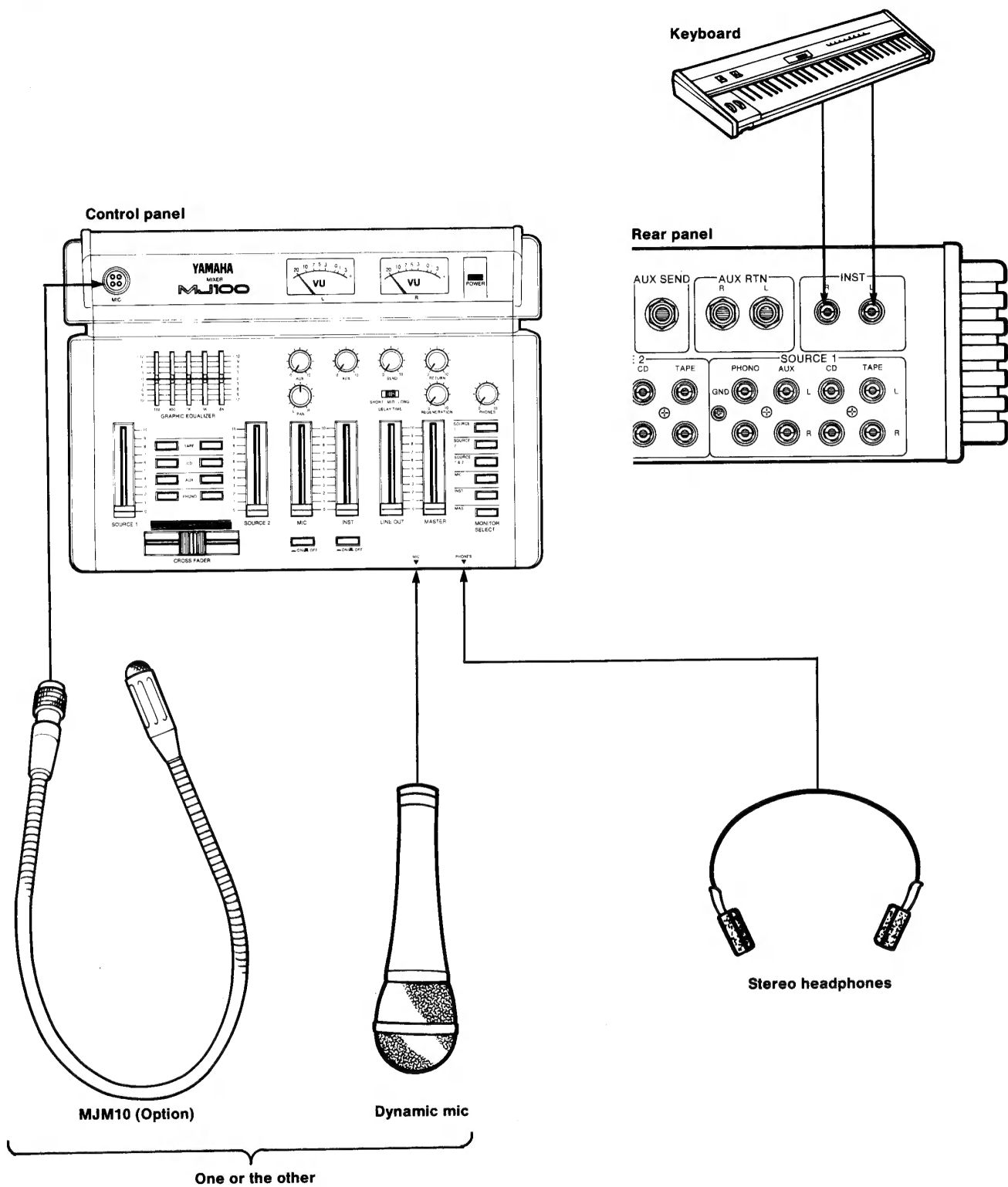
# SETUP EXAMPLE

## ● Basic setup

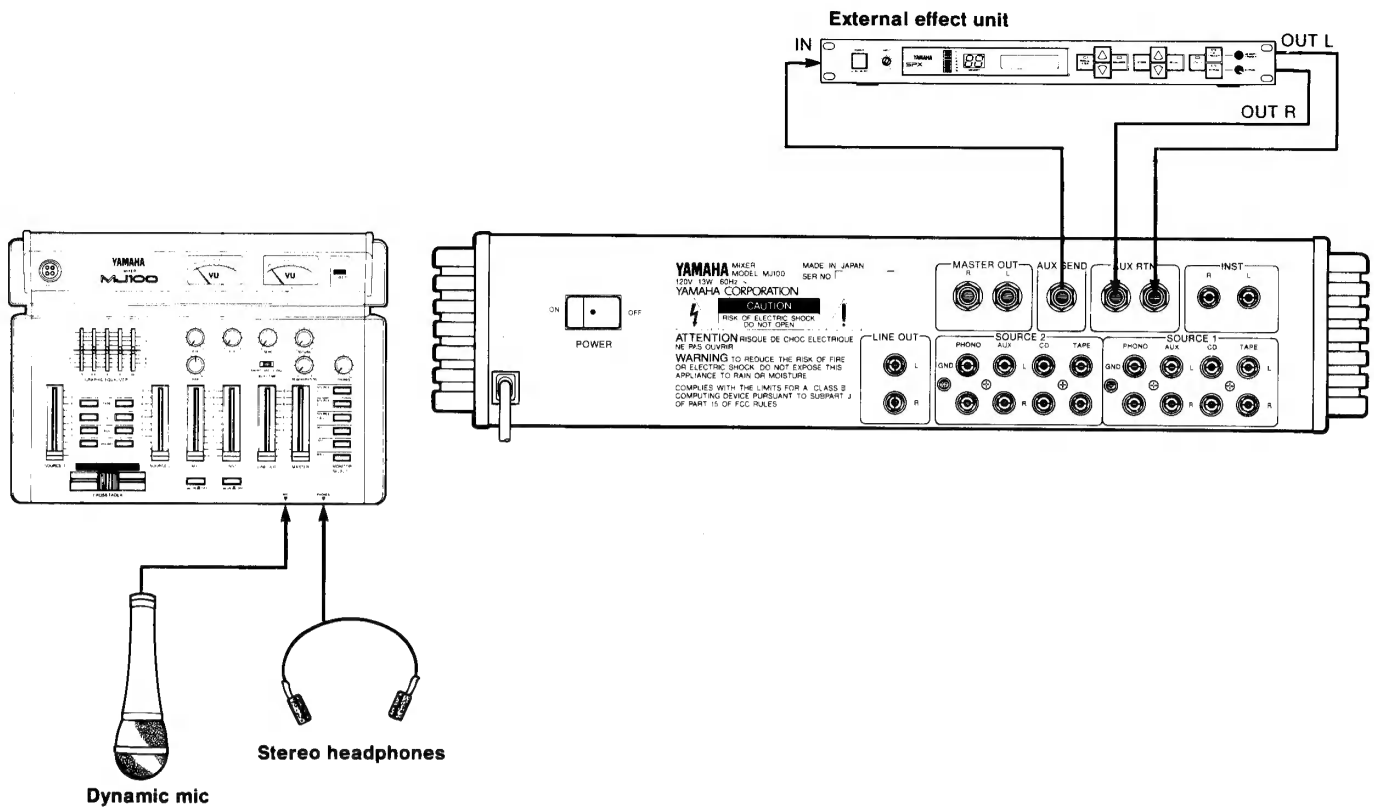




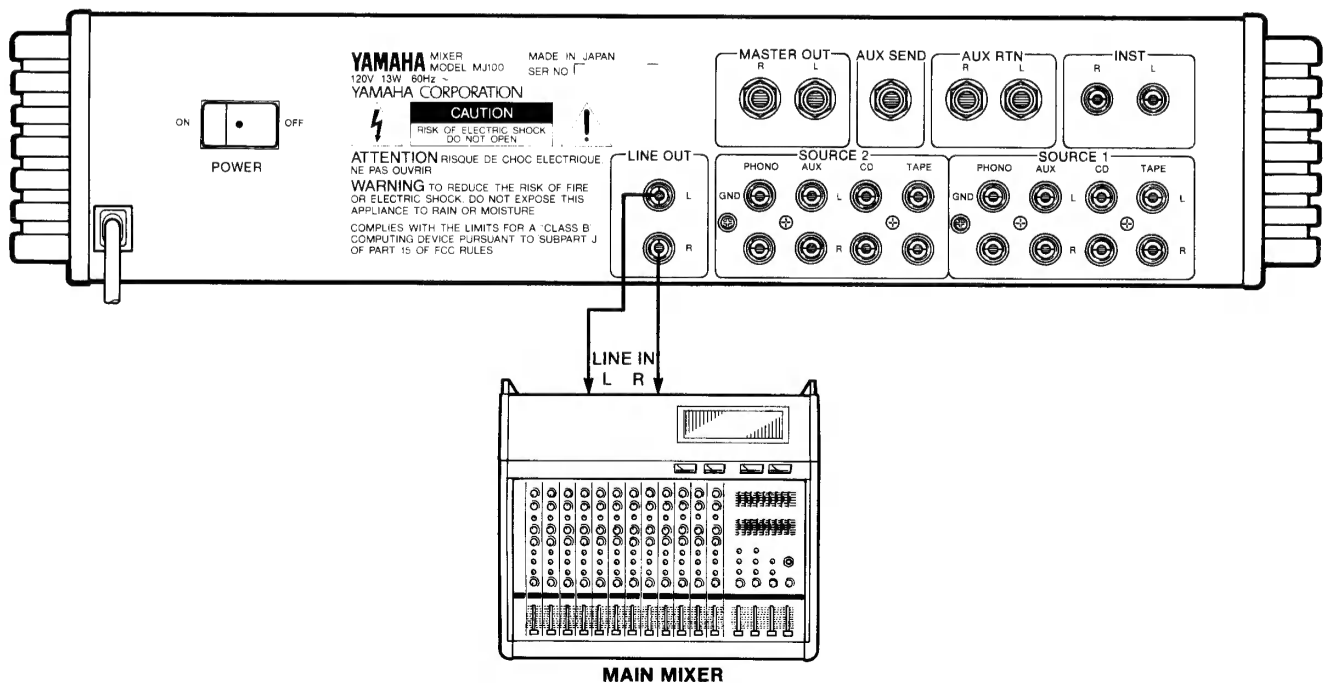
● Using the built-in delay unit



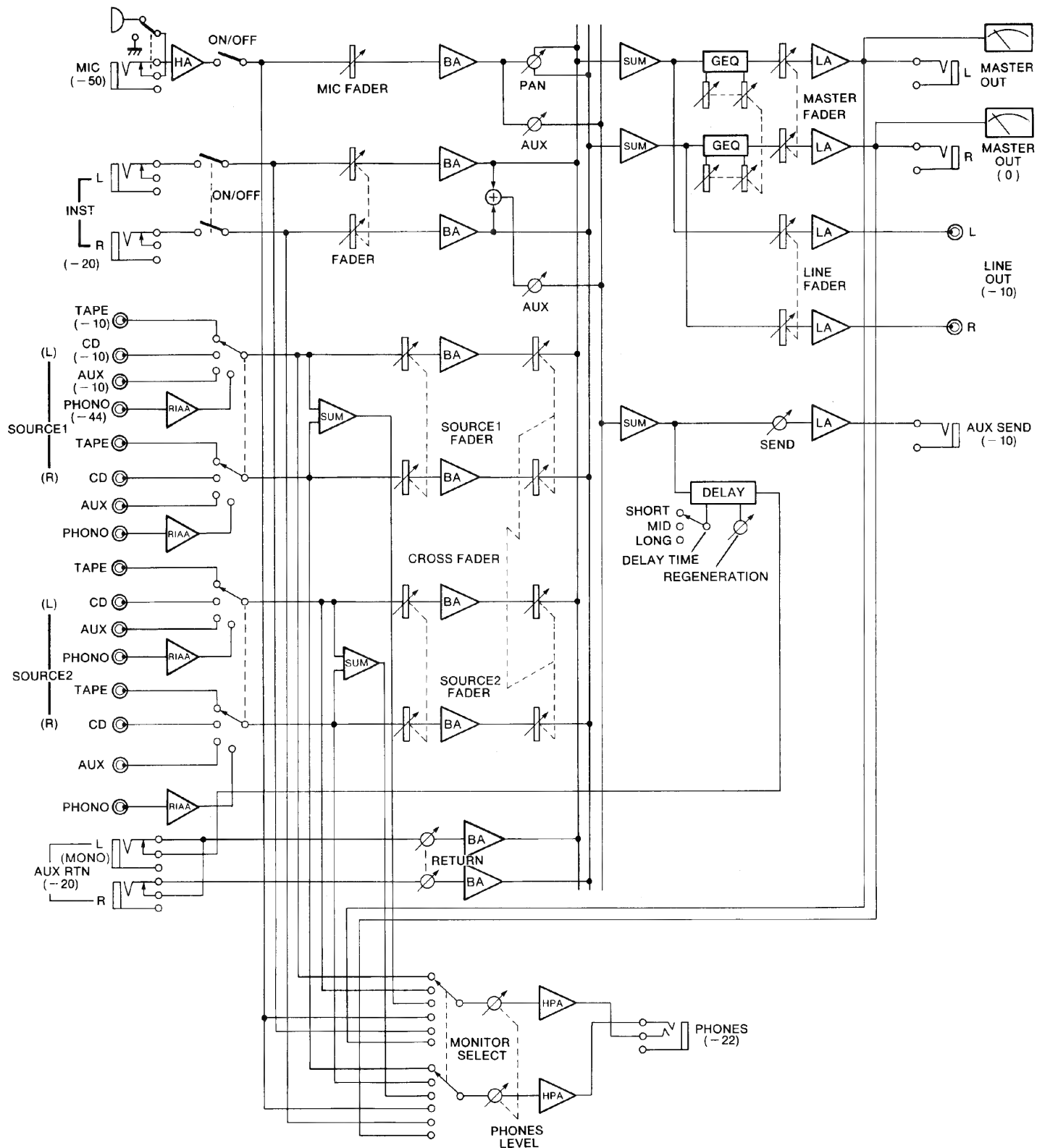
## ● Using an external effect unit



## ● Using the MJ100 as a submixer



# BLOCK DIAGRAM



# INPUT/OUTPUT SPECIFICATIONS

FREQUENCY RESPONSE	+0, -3dB 20Hz ~ 20kHz
TOTAL HARMONIC DISTORTION (20Hz ~ 20kHz)	Less than 0.1%
HUM & NOISE (20Hz ~ 20kHz) Rs = 150 ohms STEREO OUT Master fader and MIC fader at Maximum level	-122 dB (EIN) -88 dB
CROSSTALK (1kHz) Adjacent Input Input to Output	-60 dB -60 dB
MAXIMUM VOLTAGE GAIN PHONO IN to MASTER OUT PHONO IN to STEREO OUT AUX RETURN to STEREO OUT PHONO IN to AUX SEND INST IN to AUX SEND	44 dB 34 dB 10 dB 34 dB 10 dB
EQUALIZER (MASTER GEQ) 100, 400, 1K, 3K, 8K 5 BAND	±12 dB Maximum
DIGITAL DELAY SHORT MID LONG 3 Positions (100ms) (150ms) (200ms)	
POWER REQUIREMENTS (US & Canadian models) (General model)	AC120V, 60Hz AC220, 240V, 50/60Hz
POWER CONSUMPTION	13 W
DIMENSIONS (W x H x D)	350 x 77 x 254 mm (13-3/4" x 3-1/4" x 10")
WEIGHT	2.8 kg (6.2 lb)

\* Hum & Noise are measured with 6dB/octave filter at 12.7kHz: equivalent to a 20kHz filter with infinite dB/octave attenuation.

\*\* 0dB is referenced to 0.775V rms.

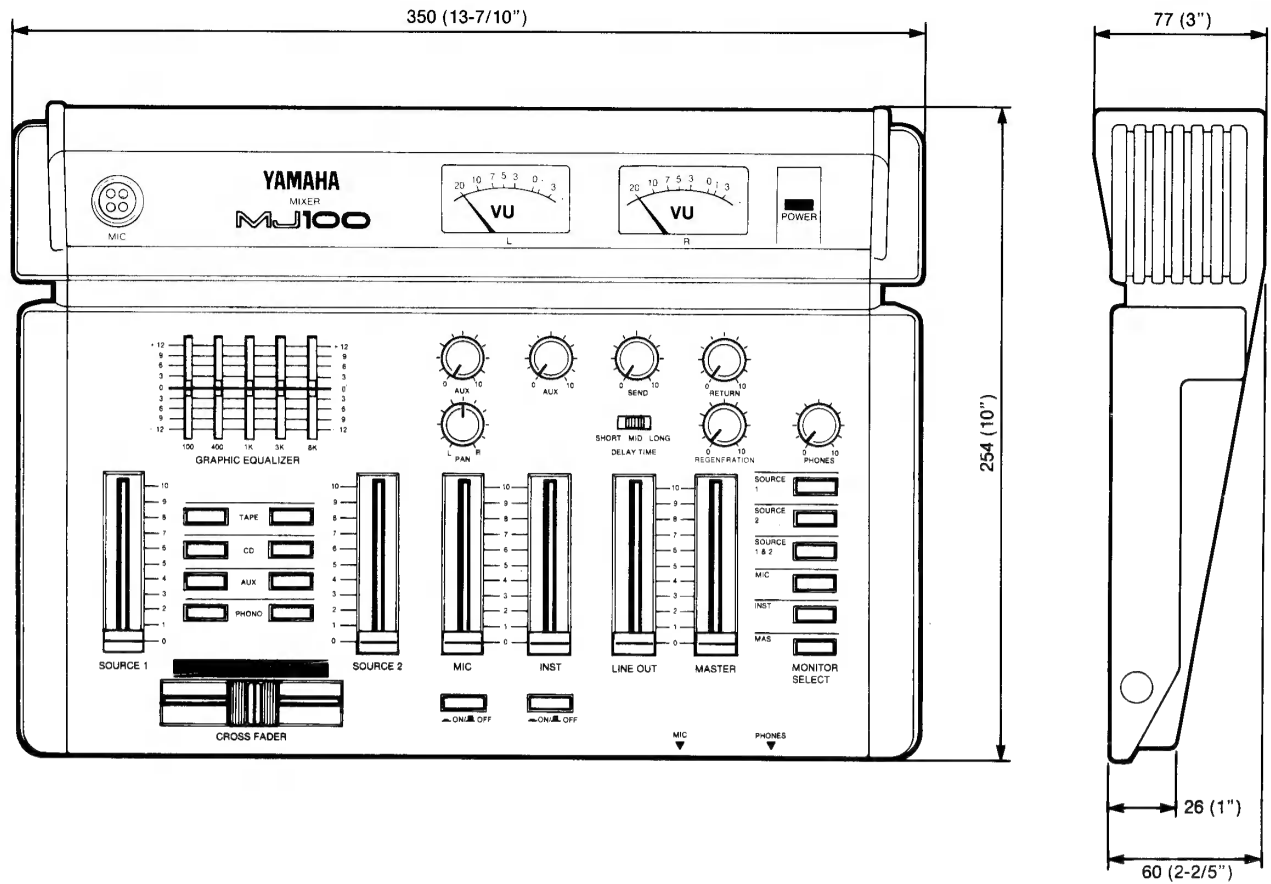
## INPUT CHARACTERISTICS

Connection		Actual Load Impedance	For Use With Nominal	Input Level		Connector In Mixer
				Nominal	Max. before clip	
CH Input 1, 2	PHONO	47k ohms		− 44 dB (4.9mV)	− 14 dB (155mV)	Pin Jack
	CD, TAPE AUX	15k ohms		− 10 dB (245mV)	+ 20 dB (7.75V)	
INST IN		15k ohms	600 ohm Lines	− 20 dB (77.5mV)	+ 10 dB (2.45V)	Phone jack
MIC IN		20k ohms	50 ~ 250 ohm MICS	− 50 dB (2.45mV)	− 20 dB (77.5mV)	Phone Jack
AUX RETURN		10k ohms	600 ohm Lines	− 20 dB (77.5mV)	+ 10 dB (2.45V)	Phone Jack

## OUTPUT CHARACTERISTICS

Connection	Actual <del>Load</del> <sup>Source</sup> Impedance	For Use With Nominal	Output Level		Connector In Mixer
			Nominal	Max. before clip	
LINE OUT (L, R)	600 ohms	10k ohm Lines	− 10 dB (245mV)	+ 20 dB (7.75V)	Pin Jack
MASTER OUT (L, R)	600 ohms	10k ohm Lines	0 dB (775mV)	+ 20 dB (7.75V)	Phone Jack
PHONES OUT	100 ohms	8 ohm phones	− 22 dB (0.5mW)	− 6 dB (19mW)	STEREO Phone Jack
AUX SEND	600 ohms	10k ohm Lines	− 10 dB (245mV)	+ 20 dB (7.75V)	Phone Jack

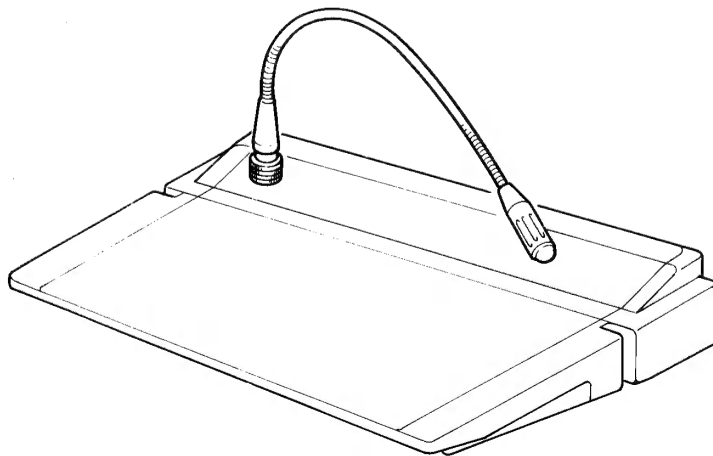
# DIMENSIONS



Unit : mm (inch)

## OPTION

YAMAHA Goose neck condensor mic MJM-10 is available for the MJ100.



### SERVICE

The MJ100 is supported by Yamaha's worldwide network of factory trained and qualified dealer service personnel. In the event of a problem, contact your nearest Yamaha dealer.

# YAMAHA